

2 4. (Once Amended) A method according to claim 1, wherein the hydrogen gas introduced into the activation vessel has a pressure of about 0.5 – 10 MPa and a temperature of between about 20 – 60°C. 70-1400 psi

a3 9. (Once Amended) A method according to claim 8, further comprising continuously supplying the inert gas to the hydrogen storage tank when the flat lid is being affixed to the hydrogen storage tank.

a4 19. (Once Amended) A method according to claim 14, further comprising storing hydrogen as absorbed hydrogen within the powdered hydrogen-absorbing alloy disposed within the hydrogen storage tank.

20. (Once Amended) A method of manufacturing a hydrogen storage tank with a powdered hydrogen-absorbing alloy that has absorbed hydrogen, the method comprising:

preparing an activation vessel filled with a hydrogen-absorbing alloy,
activating the hydrogen-absorbing alloy by introducing hydrogen gas into the activation vessel,
generating a substantially powdered hydrogen-absorbing alloy that has been activated within the activation vessel by means of the hydrogen gas,
evacuating a hydrogen-storage tank,
connecting the hydrogen storage tank to the activation vessel and
supplying the activated hydrogen-absorbing alloy to the hydrogen storage tank from the activation vessel.

Please cancel claims 10 and 16-18.

Please add claims 21 – 37 which read as follows:

a5 21. (New) A method of manufacturing a hydrogen storage tank with a powdered hydrogen-absorbing alloy that has absorbed hydrogen, the method comprising:
preparing an activation vessel filled with a hydrogen-absorbing alloy,

activating the hydrogen-absorbing alloy by introducing hydrogen gas into the activation vessel,

generating a substantially powdered hydrogen-absorbing alloy that has been activated within the activation vessel by means of the hydrogen gas,

filling the hydrogen-storage tank with an inert gas,

connecting the hydrogen storage tank to the activation vessel and

supplying the activated hydrogen-absorbing alloy to the hydrogen storage tank from the activation vessel.

22. (New) A method comprising:

disposing a substantially solid block of hydrogen-absorbing alloy within an activation vessel,

introducing hydrogen gas into the activation vessel under conditions that will cause the hydrogen-absorbing alloy to absorb hydrogen and crack or break apart, thereby forming a substantially powdered hydrogen-absorbing alloy,

filling the hydrogen-storage tank with an inert gas, and

transferring the substantially powdered hydrogen-absorbing alloy from the activation vessel to the hydrogen storage tank without substantially exposing the powdered hydrogen-absorbing alloy to oxygen.

23. (New) A method according to claim 22, wherein the hydrogen-absorbing alloy is ingot-shaped and the substantially powdered hydrogen-absorbing alloy is produced by continuously breaking the ingot-shaped hydrogen-absorbing alloy within the activation vessel due to volume expansion caused by the hydrogen-absorbing alloy absorbing hydrogen.

24. (New) A method according to claim 22, further comprising cooling the hydrogen-absorbing alloy within the activation vessel and then introducing high-pressure hydrogen to the cooled hydrogen-absorbing alloy.

25. (New) A method according to claim 22, wherein relatively high-pressure and low temperature hydrogen gas is introduced into the activation vessel.

26. (New) A method according to claim 22, wherein the substantially powdered hydrogen-absorbing alloy is transferred from the activation vessel to the hydrogen storage tank by connecting the activation vessel to the hydrogen storage tank via a valve.

27. (New) A method according to claim 26, wherein the valve comprises a ball valve disposed on the activation vessel.

28. (New) A method according to claim 27, further comprising transferring the ball valve from the activation vessel to the hydrogen storage tank when the powdered hydrogen-absorbing alloy is transferred to the hydrogen storage tank from the activation vessel.

29. (New) The method according to claim 22, further comprising affixing a flat lid to the top of the hydrogen storage tank, thereby defining a ceiling portion of the hydrogen storage tank, after the powdered hydrogen-absorbing alloy has been transferred to the hydrogen storage tank.

30. (New) A method according to claim 29, further comprising continuously supplying the inert gas to the hydrogen storage tank when the flat lid is being affixed to the hydrogen storage tank.

31. (New) A method according to claim 22, further comprising storing hydrogen as absorbed hydrogen within the powdered hydrogen-absorbing alloy disposed within the hydrogen storage tank.

32. (New) A method according to claim 22, wherein the hydrogen absorbing alloy comprises titanium and vanadium and has a body centered cubic (BCC) structure.

33. (New) A method according to claim 32, wherein the hydrogen gas contacts the hydrogen absorbing alloy at a pressure of about 0.5-10 MPa and a temperature of between about 20-60°C.

34. (New) A method according to claim 33, further comprising:

cooling the hydrogen-absorbing alloy within the activation vessel and then introducing relatively high-pressure and low temperature hydrogen to the cooled hydrogen-absorbing alloy, wherein the hydrogen-absorbing alloy is ingot-shaped and the substantially powdered hydrogen-absorbing alloy is produced by continuously breaking the ingot-shaped hydrogen-absorbing alloy within the activation vessel due to volume expansion caused by the hydrogen-absorbing alloy absorbing hydrogen, and wherein the substantially powdered hydrogen-absorbing alloy is transferred from the activation vessel to the hydrogen storage tank by connecting the activation vessel to the hydrogen storage tank via a ball valve disposed on the activation vessel.

35. (New) A method according to claim 34, further comprising transferring the ball valve from the activation vessel to the hydrogen storage tank when the powdered hydrogen-absorbing alloy is transferred to the hydrogen storage tank from the activation vessel.

36. (New) A method comprising:

disposing a substantially solid block of hydrogen-absorbing alloy within an activation vessel,

introducing hydrogen gas into the activation vessel under conditions that will cause the hydrogen-absorbing alloy to absorb hydrogen and crack or break apart, thereby forming a substantially powdered hydrogen-absorbing alloy, and

transferring the substantially powdered hydrogen-absorbing alloy from the activation vessel to a hydrogen storage tank without substantially exposing the powdered hydrogen-absorbing alloy to oxygen and without the absorbed hydrogen being substantially desorbed from the substantially powdered hydrogen absorbing alloy.

37. (New) A method according to claim 36, wherein the substantially powdered hydrogen-absorbing alloy is transferred from the activation vessel to the hydrogen storage tank by connecting the activation vessel to the hydrogen storage tank via a valve, so that the substantially powdered hydrogen absorbing alloy is prevented from communicating with the environment outside of the activation vessel and the hydrogen storage tank during the transferring from the activation vessel to the hydrogen storage tank.

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